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ABSTRACT

Transfer rates from California's community colleges to the University of California (UC) and the California State University (CSU) are reviewed, along with information on the upper-division performance of transfer students, the results of a pilot test of transfer centers at 20 community colleges, possible future trends in transfer, and problems with measuring transfers. Significant findings include: (1) the number of students transferring and the rate of transfer from the community colleges to UC and CSU have increased during the past 5 years even though the number of potential transfer students has declined; (2) the performance of community college transfer in upper division at UC and CSU appears to have been consistently similar to that of "native" students who started their college work at those institutions; (3) while there have been gains in transfer among underrepresented students, the numbers and rates of transfer by African-Americans and Hispanics are still well below those of Caucasians and Asians; (4) transfer rates are high from community colleges that enroll more full-time students, relatively more young full-time students, and few full-time underrepresented students; are located in suburban areas; and operate transfer centers; (5) colleges that report the highest transfer rates for underrepresented students also have the best overall transfer rates, but enroll relatively few underrepresented students; and (6) the 20 colleges with transfer centers appear to have transferred substantially more students during each of the 4 pilot years. (DJD)

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Trends in Transfer From California Community Colleges

1991 Update

Based on Background Data

Prepared for

Board of Governors Meeting
Santa Clara, California
November 1991

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Prepared by
Research and Analysis Unit
Chancellor's Office
California Community Colleges

December 1991
Sacramento, California

JC 920 106

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Preface

This report was prepared as background information for the Board of Governors consideration of a *Community College Transfer Plan* at its November 1991 meeting.

Trends described here may be compared to those described in earlier studies: *Community College Transfer Performance (1989)* and *Transfer Education (1984)*, also prepared by the Chancellor's Office.

The data in this report were obtained from several sources, including the California Postsecondary Education Commission, the University of California, the California State University, and the Chancellor's Office Information System. Analyses were conducted by Taron Reeves and other members of the Chancellor's Office Research and Analysis Unit. Figures and tables were prepared by Adria Sanders of the Chancellor's Office Documents and Publications Unit.

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Charles McIntyre, Director
Research and Analysis
Chancellor's Office

December 1991

Trends in Transfer From California Community Colleges

Summary

This report contains information on the number and rate of Community College transfers to the University of California and the California State University, the upper-division performance of these transfer students, factors influencing the transfer rates reported for individual Colleges, results of the pilot test of transfer centers at twenty Community Colleges, possible future trends in transfer, and a brief discussion of problems about defining and measuring transfer.

A review of the available data indicates that both the number of students transferring and the rate of transfer from the California Community Colleges to the University of California (UC) and the California State University (CSU) have increased during the past five years even though both the number and preparation of high school graduates (potential transfer students) entering the Community Colleges appear to have declined. And, the performance of Community College transfers in upper-division at UC and CSU appears to have been consistently similar to that of "native" students who started their college work as freshmen at those institutions. But, while there have been gains in transfer among underrepresented students, the numbers and rates of transfer by African-Americans and Hispanics are still well below those of Caucasians and Asians.

There is a wide variation in the number of students transferring from individual colleges to UC and CSU. The differences are largely because of College size and, therefore, the number of students who are likely to be interested in transferring. However, transfer rates are higher from Community Colleges that enroll more full-time students, relatively more young full-time students and fewer full-time underrepresented students, are located in suburban areas, and operate transfer centers. And, individual College transfer rates are affected by UC and CSU admissions practices. Finally, Colleges that report the highest transfer rates for underrepresented students also have the best overall transfer rates, but enroll relatively few underrepresented students.

Transfer centers have had a significant impact on transfer activity from those 20 Colleges where they were pilot tested between 1986 and 1990. The 20 Colleges with transfer centers appear to have transferred substantially more students during each of the four pilot years – the number increased from 1,200 to 2,300 over the period – than if they had performed like the other 86 colleges during this four-year period. Projecting these results to all colleges would result in a 15 percent increase in transfer activity.

The changing demography of California suggests that, beginning 1993, there will be a substantial increase in the number of 18-year-olds and, therefore, in the number of potential transfer students enrolling at Community Colleges for more than a decade – leveling off by the year 2004 – and that the majority of these students will be from racial and ethnic minorities.

Difficulties in characterizing the transfer function have led to a number of efforts to more effectively define and measure a "transfer rate." Like any other rate, there are issues about both the numerator (those who are qualified to transfer and/or do so) and denominator (the number of Community College students who are bona fide potential transfers). A number of different measures have been proposed recently and Berman-Weiler Associates are beginning a study to assess the feasibility of all California Community Colleges using a measure developed by the National Effective Transfer Consortium.

Systemwide Transfer Activity

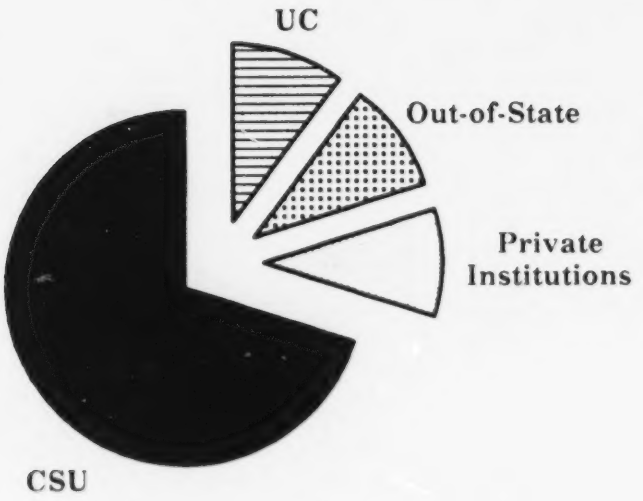
Transfer Numbers

The number of students transferring from California Community Colleges to four-year institutions in and out of California during 1990-91 is estimated to have been just over 70,000. (This estimate is derived from a full-year expansion of California Postsecondary Education Commission reporting for Fall 1990 transfers to the University of California (UC), the California State University (CSU), and the independent colleges and universities in California, along with an assumption – based on prior studies – that the number of out-of-state transfers is equal to number transferring to California independent institutions.)

Nearly eight of every ten transfers go to UC or CSU (Figure 1). Trends in the numbers of transfers to UC and CSU have fluctuated dramatically over the past quarter century (Figure 2). After sharp increases, the number of transfers to UC and CSU peaked in the mid 1970s due to increases in the number of full-time students (used here as a proxy for the potential pool of Community College students seeking to transfer), four-year admissions practices such as the experimentally lower GPA requirement for transfer to UC in the mid 1970s, and other factors such as the mandatory military draft of the late 1960s, and use of education benefits by Viet Nam veterans during the 1970s. Transfers then declined gradually over the next decade due largely to decreases in the pool of potential transfer students, and subsequently have increased during the recent five-year period due largely to initiatives like the recent pilot test of Community College transfer centers.

FIGURE 1

Transfer Destination



Of Every 10 CC Transfers, About:

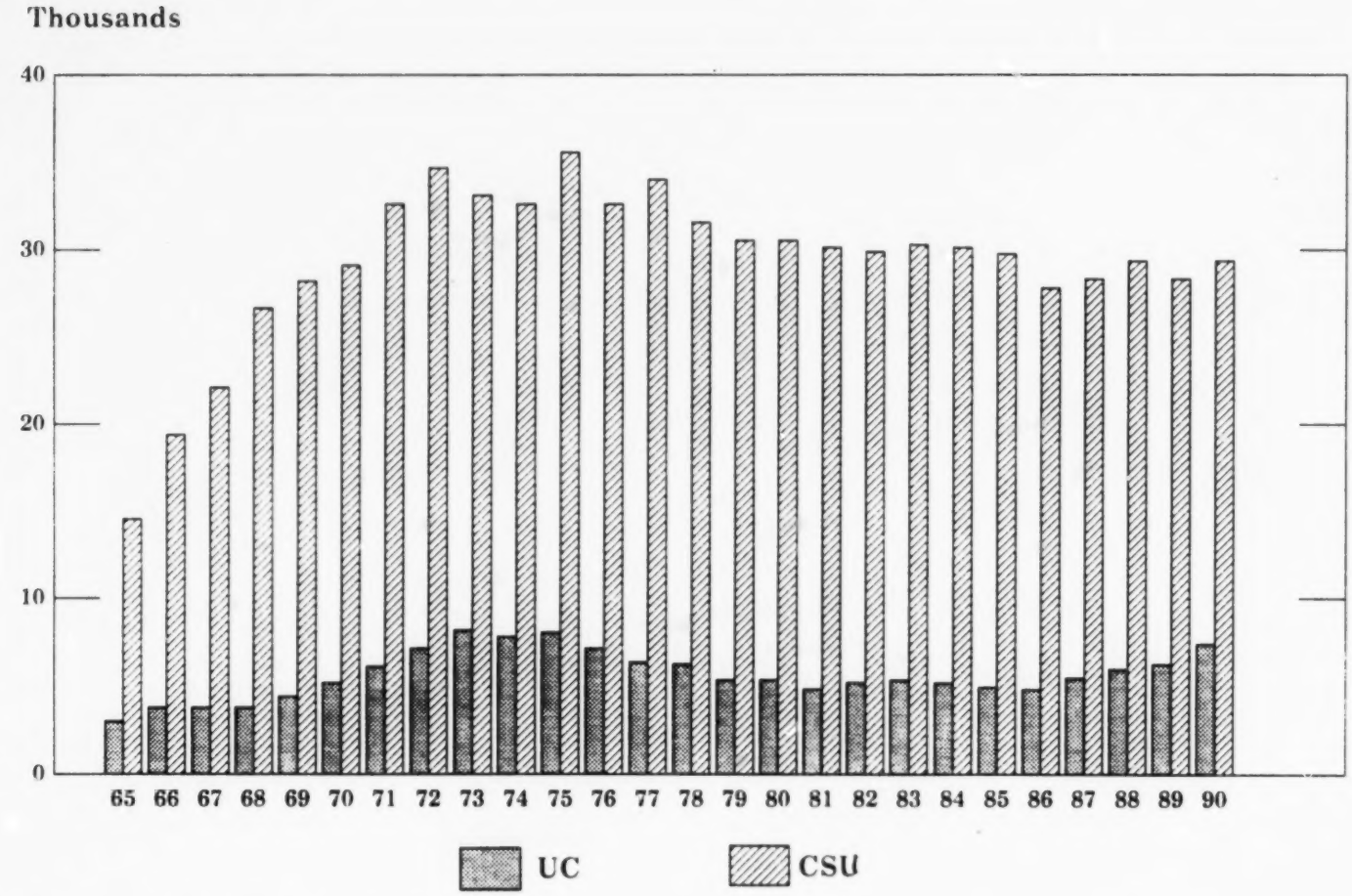
- **7** Go to CSU
- **1** Goes to UC
- **1** Goes to a California Private Institution
- **1** Goes to an Out-of-State Institution

Sources: *Statewide Longitudinal Survey*, 1981
Transfer Update, 1988, CPEC

FIGURE 2

Transfers to UC and CSU

Fall 1965-1990



Source: California Postsecondary Education Commission

The recent four-year increase of 4,168, or 13 percent in the number of fall term Community College transfers to UC and CSU (Table 1), has occurred at the very time that the potential pool of transfer students – as measured by the number of high school graduates enrolling in Community Colleges – has been stable (Figure 3).

Moreover, there is evidence that the overall preparation of students entering the Community Colleges with the intent to transfer has declined. Fewer UC and CSU eligibles are starting their work at a Community College than was the case in the past as shown in Figure 3. And, in the case of UC, the idea that transfer students are less prepared is confirmed by the fact that just 18 percent of Fall 1990 transfers from Community Colleges to UC had been eligible to attend UC directly out of high school. Ten years earlier, 38 percent of transfers had been UC-eligible directly out of high school (Figure 4).

TABLE 1

Community Colleges Transfers By Ethnicity and Segment

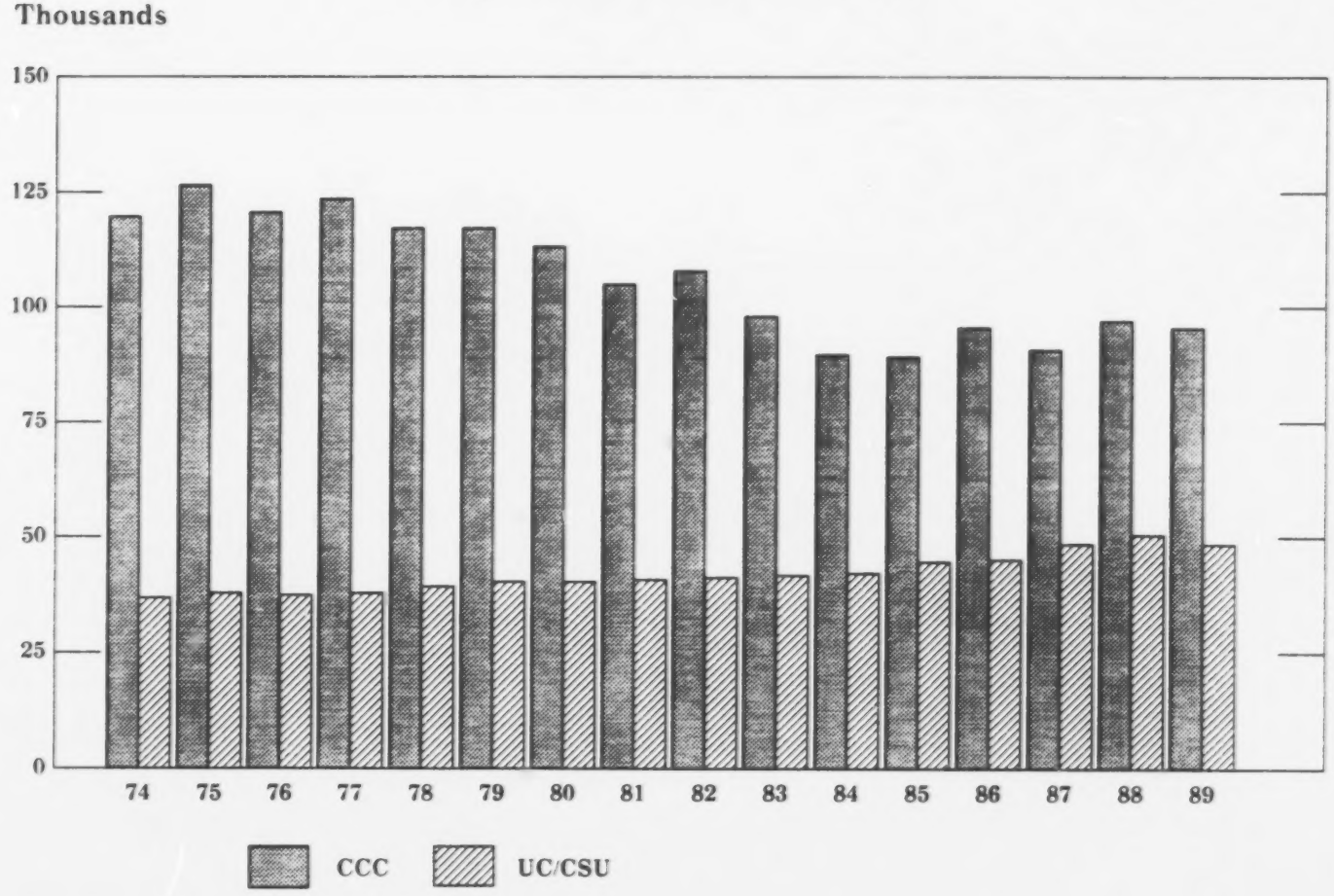
Fall 1986 – Fall 1990

	Fall 1986	Fall 1987	Fall 1988	Fall 1989	Fall 1990
African-American					
UC	168	183	185	197	209
CSU	1,403	1,475	1,560	1,611	1,717
Total	1,571	1,658	1,745	1,808	1,926
Caucasian					
UC	3,005	3,467	3,673	3,882	4,366
CSU	17,857	17,789	18,260	16,932	16,924
Total	20,862	21,256	21,933	20,814	21,290
Hispanic					
UC	431	525	639	680	796
CSU	2,697	2,875	3,019	3,092	3,615
Total	3,128	3,400	3,658	3,772	4,411
Asian					
UC	591	708	740	780	1,065
CSU	2,651	2,721	2,665	2,607	2,759
Total	3,242	3,430	3,405	3,387	3,824
Filipino					
UC	86	115	95	94	147
CSU	546	567	636	678	768
Total	634	682	731	772	915
American Indian					
UC	40	51	82	78	101
CSU	332	334	288	312	359
Total	372	385	370	390	460
Other					
UC	100	53	52	69	108
CSU	547	578	602	628	822
Total	647	631	654	697	930
No Response					
UC	216				
CSU	1,146	1,294	1,698	1,818	1,762
Nonresident Aliens					
UC	221				300
CSU	588				29,370
TOTALS					
UC	4,861				7,420
CSU	27,761				29,370
Total	32,622				36,790

Source: California Postsecondary Education Commission

FIGURE 3

Number of High School Graduates Enrolling as Freshman in CCC or UC/CSU

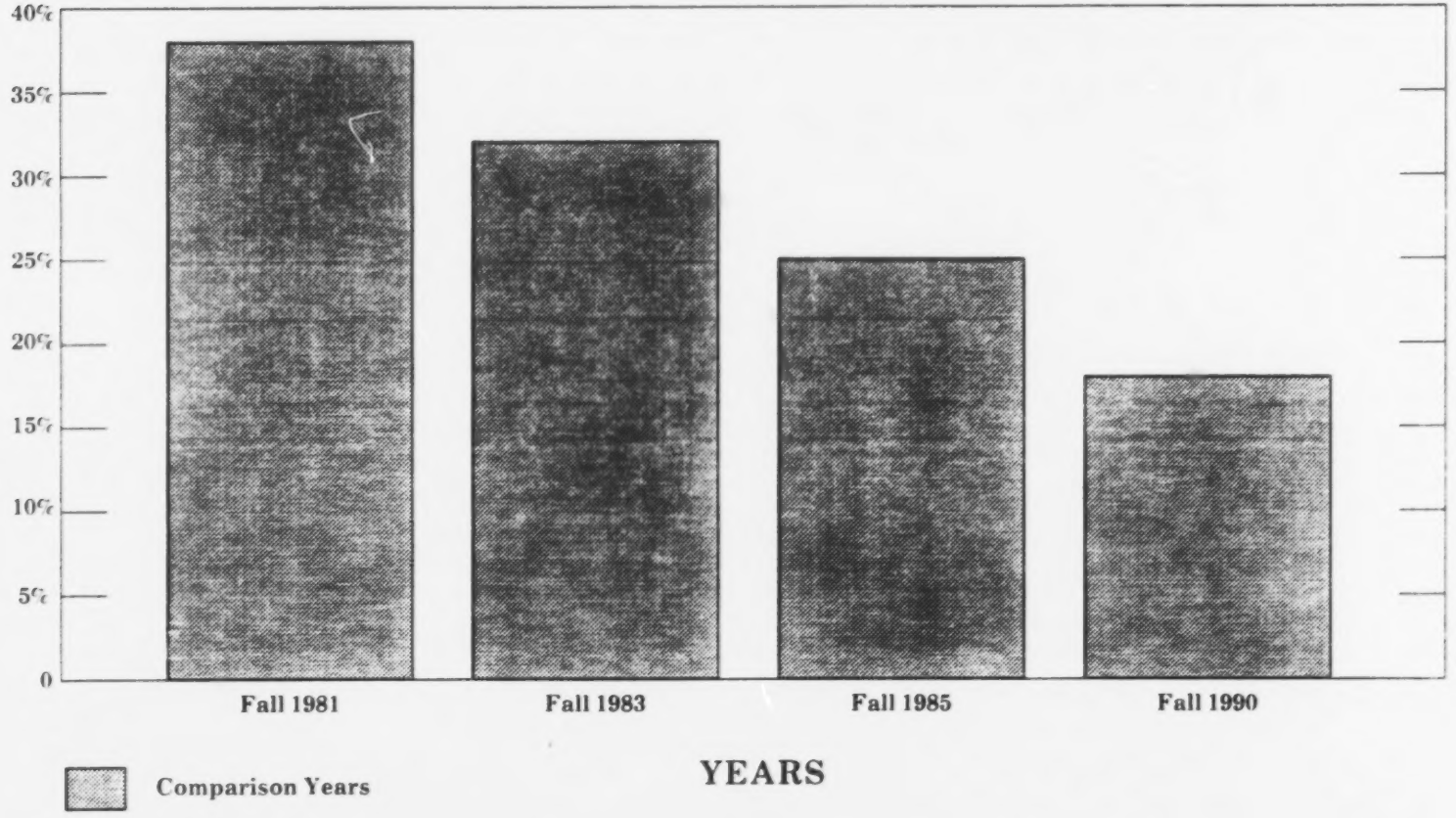


Source: California Postsecondary Education Commission, *College-Going Rates*

FIGURE 4

Transfers from CCC to UC

Percent Who Were Eligible Upon High School Graduation

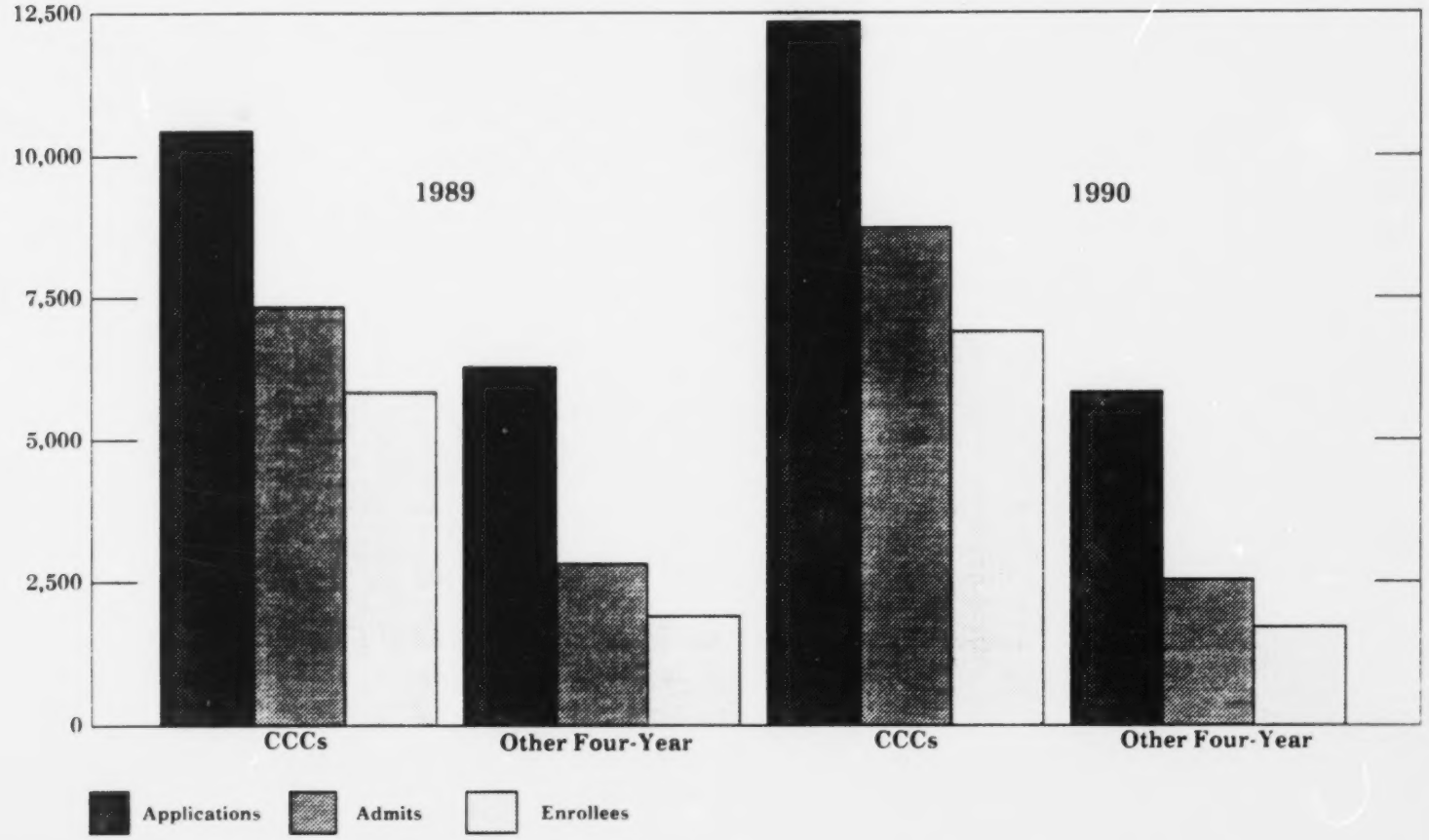


Sources: University of California, Office of Admissions and Outreach, April 1988
President's Office, September 1991

Only half of Community College students who apply for transfer to UC and CSU eventually enroll (Figure 5). But, it appears that UC is giving priority to Community College transfers compared to transfers from other four-year institutions. During 1989 and 1990, for instance, Community College transfer applicants were admitted at nearly twice the rate as applicants for transfer to UC from other four-year institutions. And, once admitted, Community College transfers were more likely to enroll than were students from other four-year institutions.

FIGURE 5A

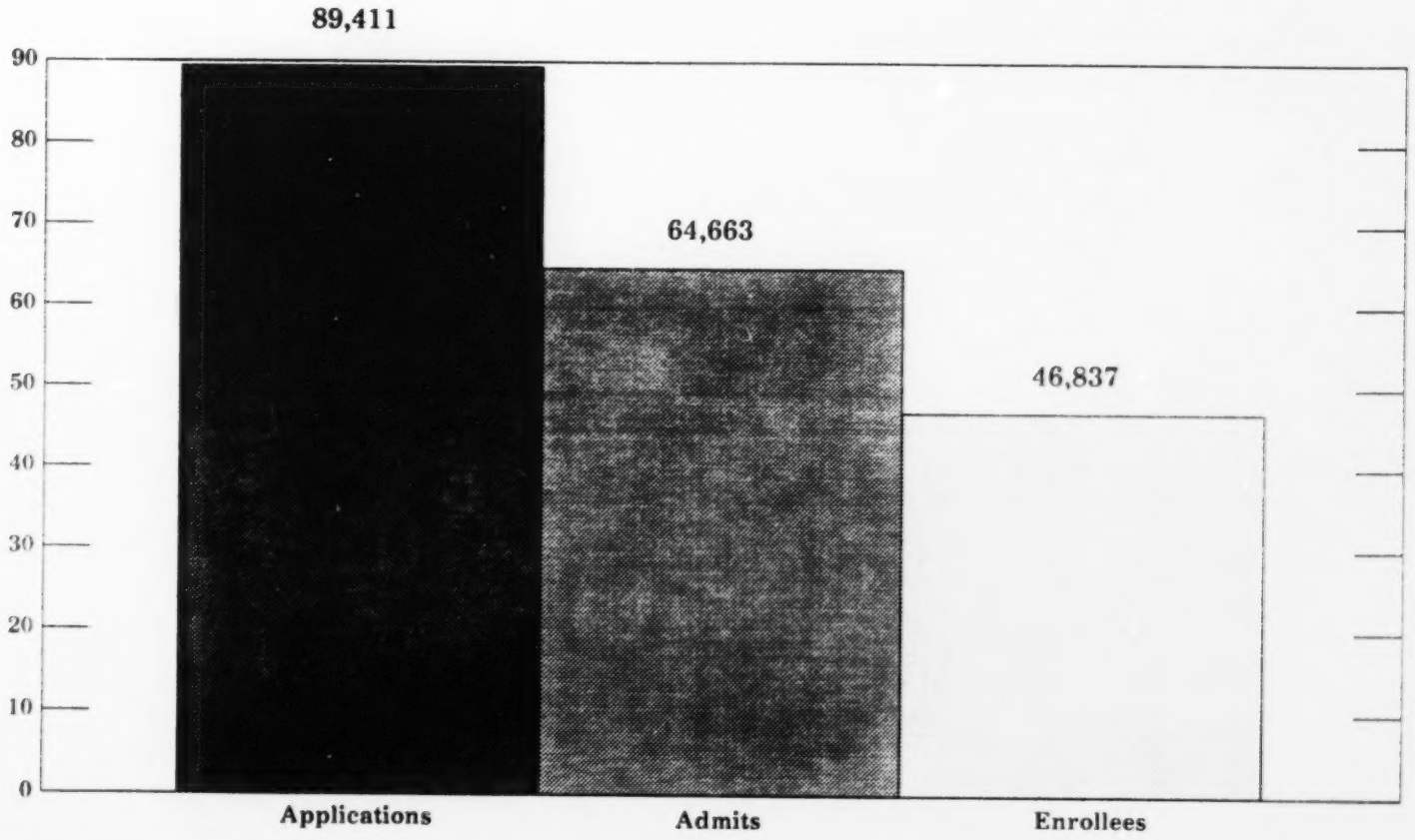
Application, Admission and Enrollment of California Resident Transfer to UC



Source: University of California, Office of Admissions and Outreach, April 1988
President's Office, September 1991

FIGURE 5B

CSU Apply, Admit and Enroll Rates for Community College Transfers
1990-91



Source: California State University, Office of Institutional Research, September 1991.

Transfer Rates

Defining and measuring a transfer rate, i.e., the proportion of those Community College students seeking to transfer who do, in fact, transfer are difficult tasks. Precise measures may require sophisticated longitudinal data systems and identification of Community College students' educational objectives and/or course-taking behavior. Short of that, a useful proxy of a transfer rate is the number who transfer compared to the number enrolled full-time at a Community College two years prior to transfer. Using this proxy, we note several significant trends over the past five years:

- Except for 1989, transfer rates from those Community Colleges with pilot transfer centers have increased, while transfer rates from other colleges have held roughly constant (Table 2 and Figure 6). This and other evidence noted below indicates that the pilot experiment with transfer centers at 20 Community Colleges has been a success.
- Rates of transfer to UC have increased for all ethnic groups – most significantly for Asians (Table 3 and Figure 7).
- Transfer rates to CSU have increased most for African-Americans, but also for Hispanics. Rates for Asians have been stable and those for Caucasians have declined slightly (Table 3 and Figure 8).
- Generally, transfer rates for all ethnic groups are converging slightly, especially at CSU, but rates for African-Americans and Hispanics still fall significantly below those of Asians and Caucasians. Rates for Filipinos and Native Americans also appear to have increased, but the numbers are small and may not valid.

TABLE 2

Fall Transfers Rates*
1986 to 1990

	1986	1987	1988	1989	1990
Pilot Colleges**					
To UC	1.8	2.4	2.5	2.4	2.7
To CSU	9.6	10.5	11.0	10.3	11.9
Total	**11.4**	**12.9**	**13.5**	**12.7**	**13.6**
Other Colleges					
To UC	1.9	2.0	2.1	2.2	2.2
To CSU	10.7	10.9	11.3	10.0	10.5
Total	**12.6**	**12.9**	**13.4**	**12.2**	**12.7**

* Transfers per 100 full time community college students two years prior.
** Twenty community colleges with pilot transfer centers.

Source: Chancellor's Office

TABLE 3

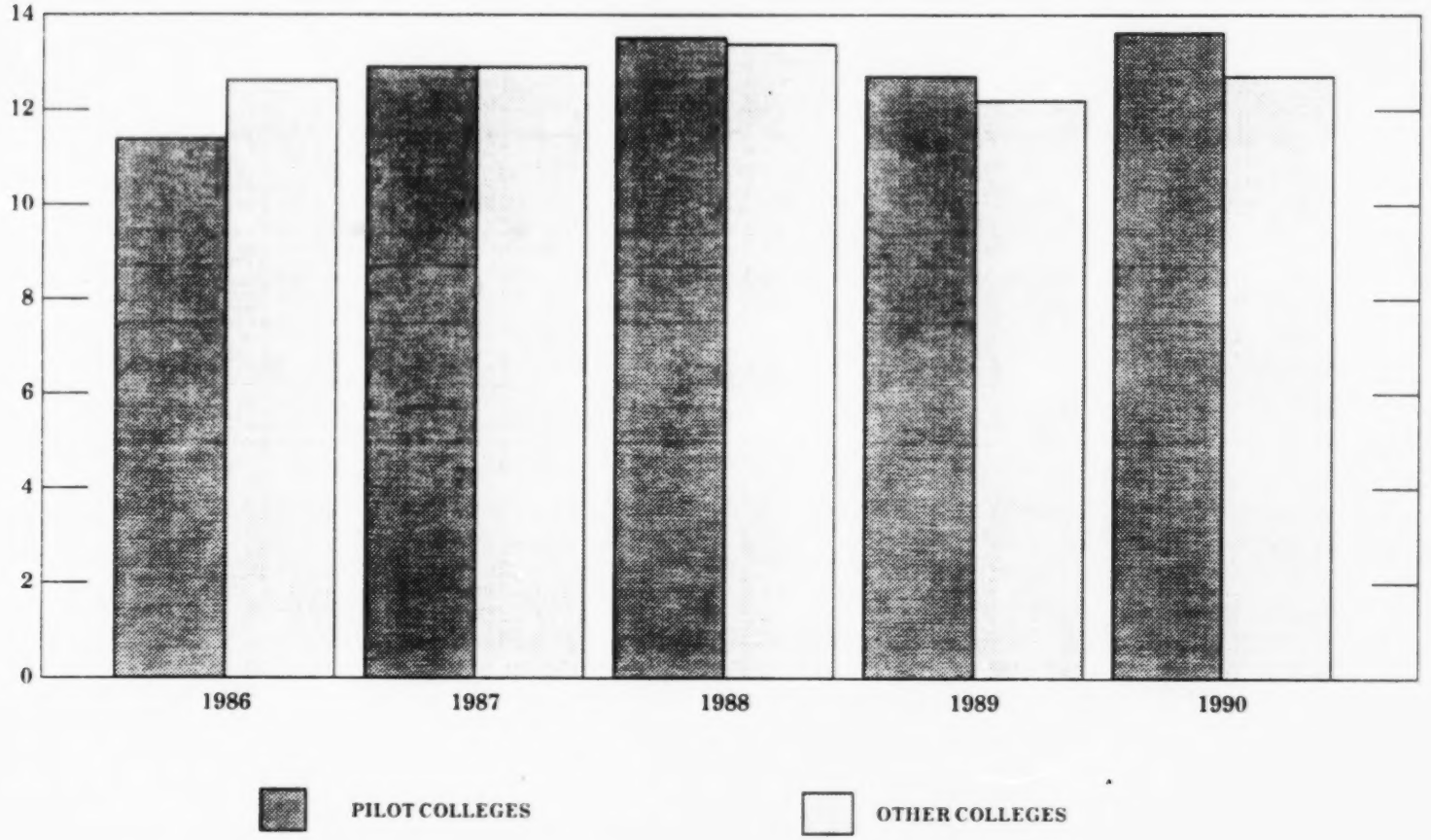
Community College Transfer Rate
By Ethnicity and Segment
Fall 1986 – Fall 1990

Transfer Rate	Fall 1986	Fall 1987	Fall 1988	Fall 1989	Fall 1990
African-American					
To UC	0.7	0.8	0.8	0.9	1.0
To CSU	5.7	6.4	6.8	7.0	8.0
Total	6.4	7.2	7.6	7.9	9.0
Caucasian					
To UC	1.9	2.3	2.4	2.4	2.7
To CSU	11.1	11.6	11.8	10.5	10.6
Total	13.0	13.9	14.2	12.9	13.3
Hispanic					
To UC	1.2	1.4	1.7	1.7	1.9
To CSU	7.6	7.9	8.0	7.6	8.6
Total	8.8	9.3	9.7	9.3	10.5
Asian/Pac. Is.					
To UC	1.9	2.2	2.3	2.6	3.4
To CSU	8.7	8.5	8.3	8.1	8.7
Total	10.6	10.7	10.6	10.7	10.5
Filipino					
To UC	1.3	1.8	1.3	1.1	1.6
To CSU	8.0	8.7	8.9	7.9	9.0
Total	9.3	10.5	10.2	9.0	10.6
American Indian					
To UC	0.9	1.5	2.4	2.2	2.8
To CSU	8.7	9.8	8.3	8.7	9.8
Total	9.6	11.3	10.7	10.9	12.6

Source: California Postsecondary Education Commission, *Transfer Update*, 1991.

FIGURE 6

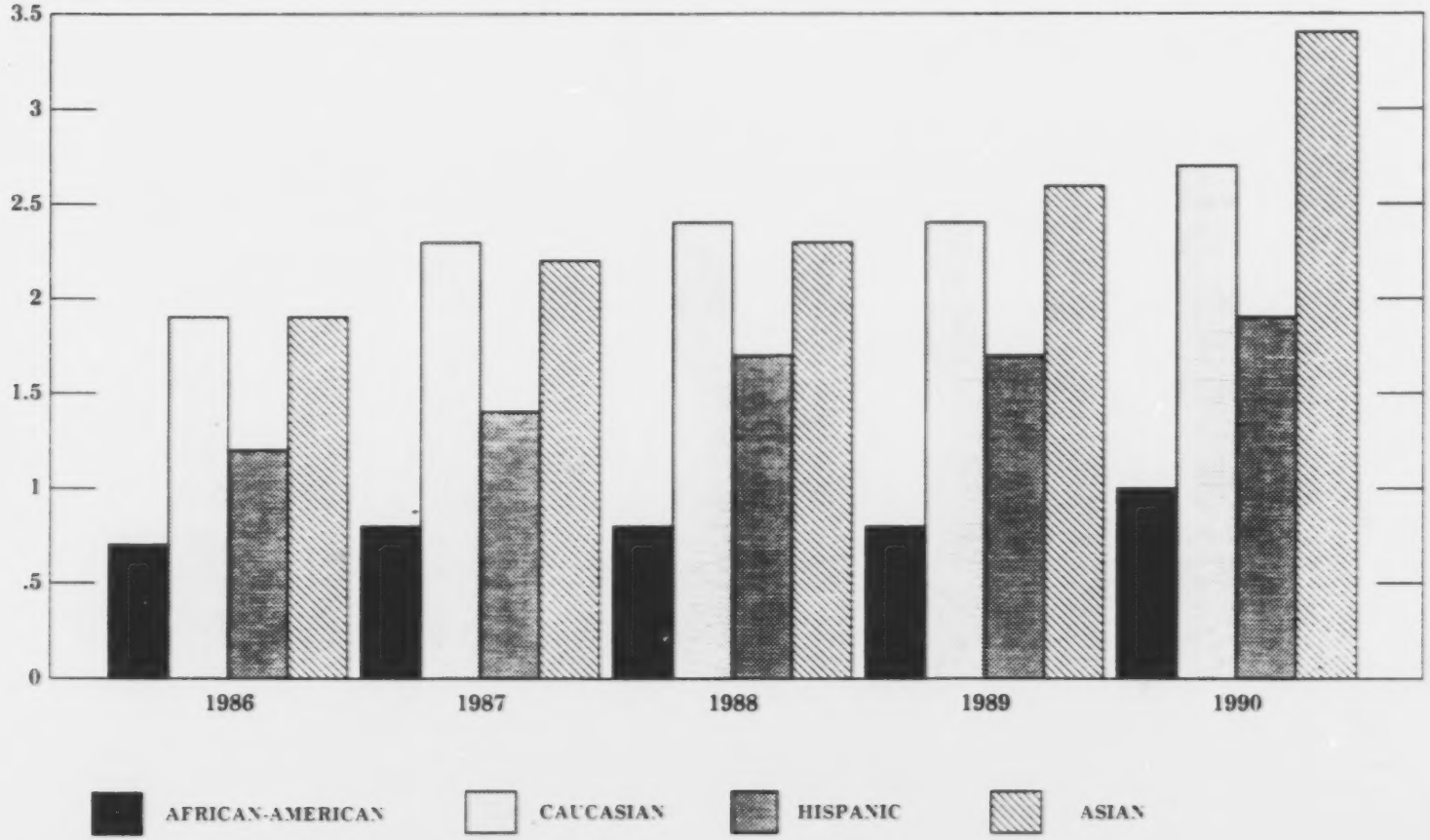
Transfer Rates to UC and CSU from Community College
(Per 100 Full-time Students)



Sources: Chancellor's Office Information System
California Postsecondary Education Commission, *Transfer Update*, 1991.

FIGURE 7

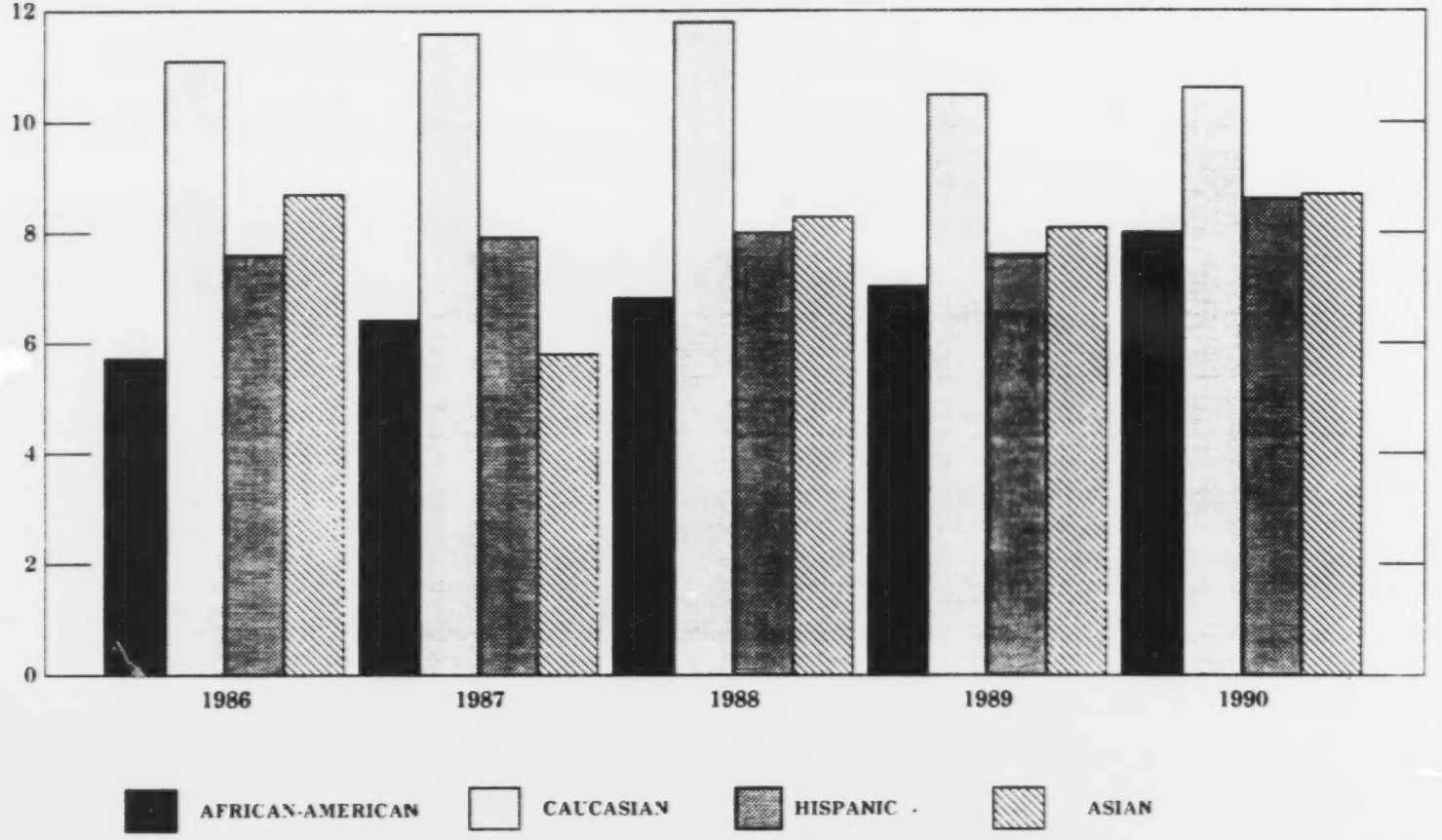
Transfer Rates to UC from Community College
(Per 100 Full-time Students)



Sources: Chancellor's Office Information System
California Postsecondary Education Commission, *Transfer Update*, 1991

FIGURE 8

Transfer Rates to CSU
by Ethnicity
Fall 1986-1990



Sources: Chancellor's Office Information System
California Postsecondary Education Commission, *Transfer Update*, 1991.

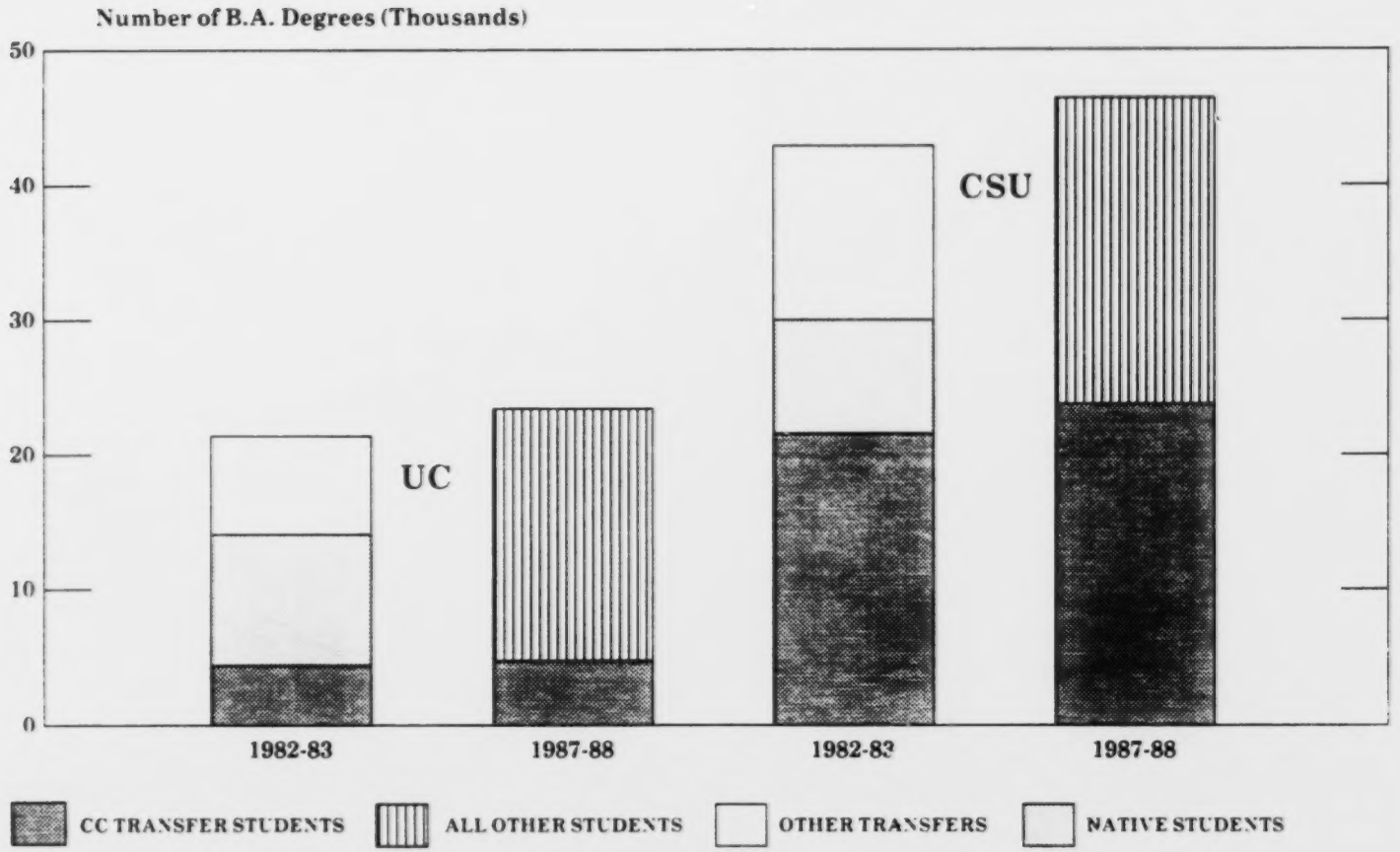
Upper-Division Performance of Transfers

Review of the transfer function should include an examination of how Community College transfers perform academically in upper-division – in general, and in comparison to those native students who began their baccalaureate work at either UC or CSU. While the performance of transfer students results in large part from work by UC and CSU, it (upper division performance) also reflects on the work by Community Colleges in preparing students for upper-division.

The magnitude of California's transfer program is apparent in the profile of UC and CSU bachelors-degree recipients. One-half of CSU degree recipients are Community College transfers (Figure 9). Another one-fifth of degree-recipients started CSU as freshmen and the remaining 30 percent are transfers from other institutions. Data for UC bachelor's degree recipients show that Community College transfers comprise one-fifth of the graduates. And, like CSU, 30 percent of UC bachelor's degree recipients are transfers from other four-year institutions. Unlike CSU, however, the balance (one-half) of UC bachelor's degree recipients began their work as freshmen at UC. These proportions have been virtually constant over the past decade.

FIGURE 9

Baccalaureate Degrees from UC and CSU Student Origin

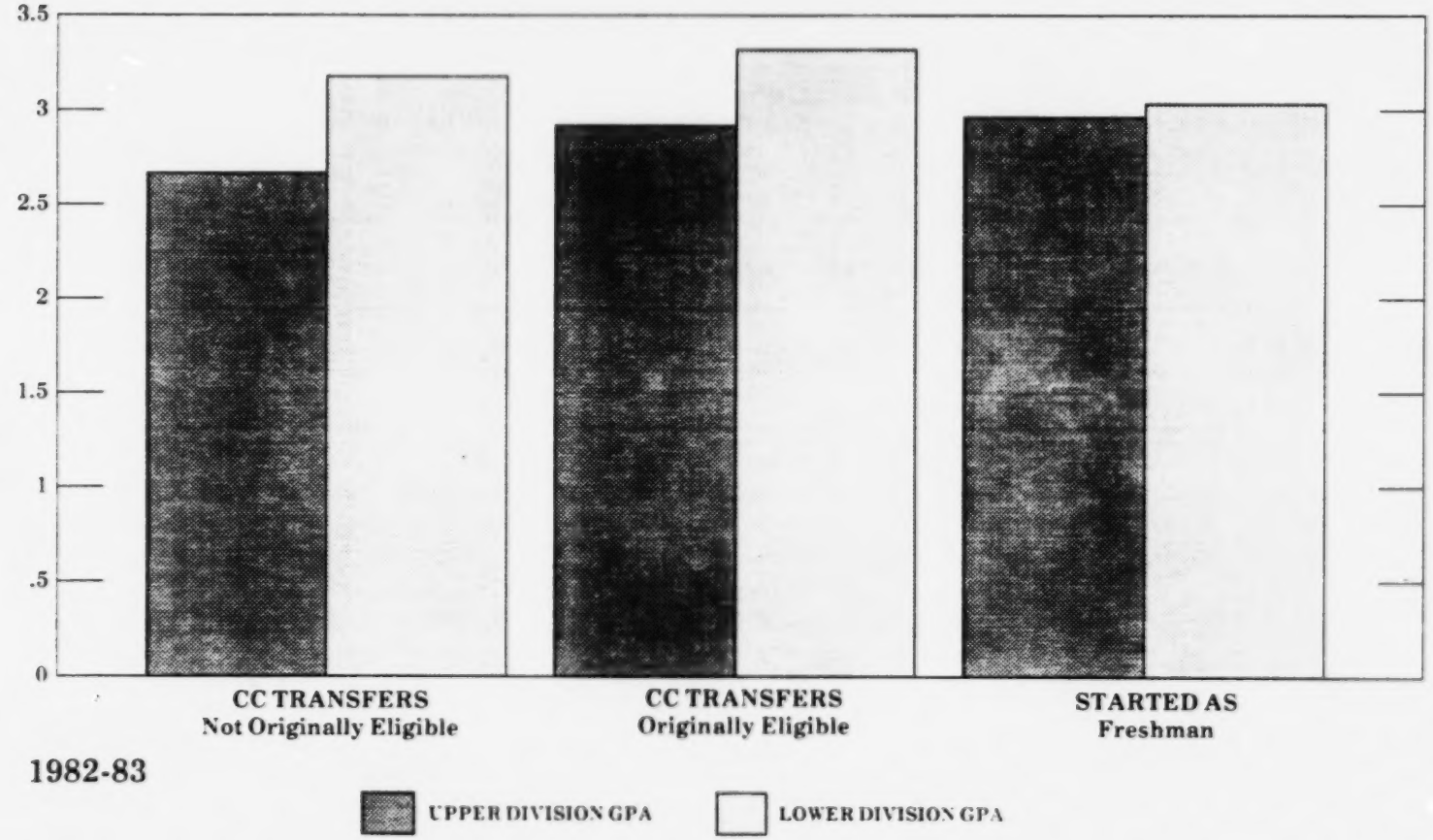


Source: *Reaffirming California's Commitment to Transfer, 1985*, CPEC, 1989

Community College students transferring to UC generally experience an initial GPA drop (from their lower division performance) of 0.4 or 0.5 during their first year. Transfers who were eligible for UC out of high school do virtually as well in upper division as do students who started at UC as freshmen (Figures 10 and 11). Transfers who were not originally eligible receive an upper division GPA that is 0.3 to 0.4 less than their native counterparts. The performance of Community College transfers at UC has been similar to that of transfers to UC from other four-year institutions.

FIGURE 10

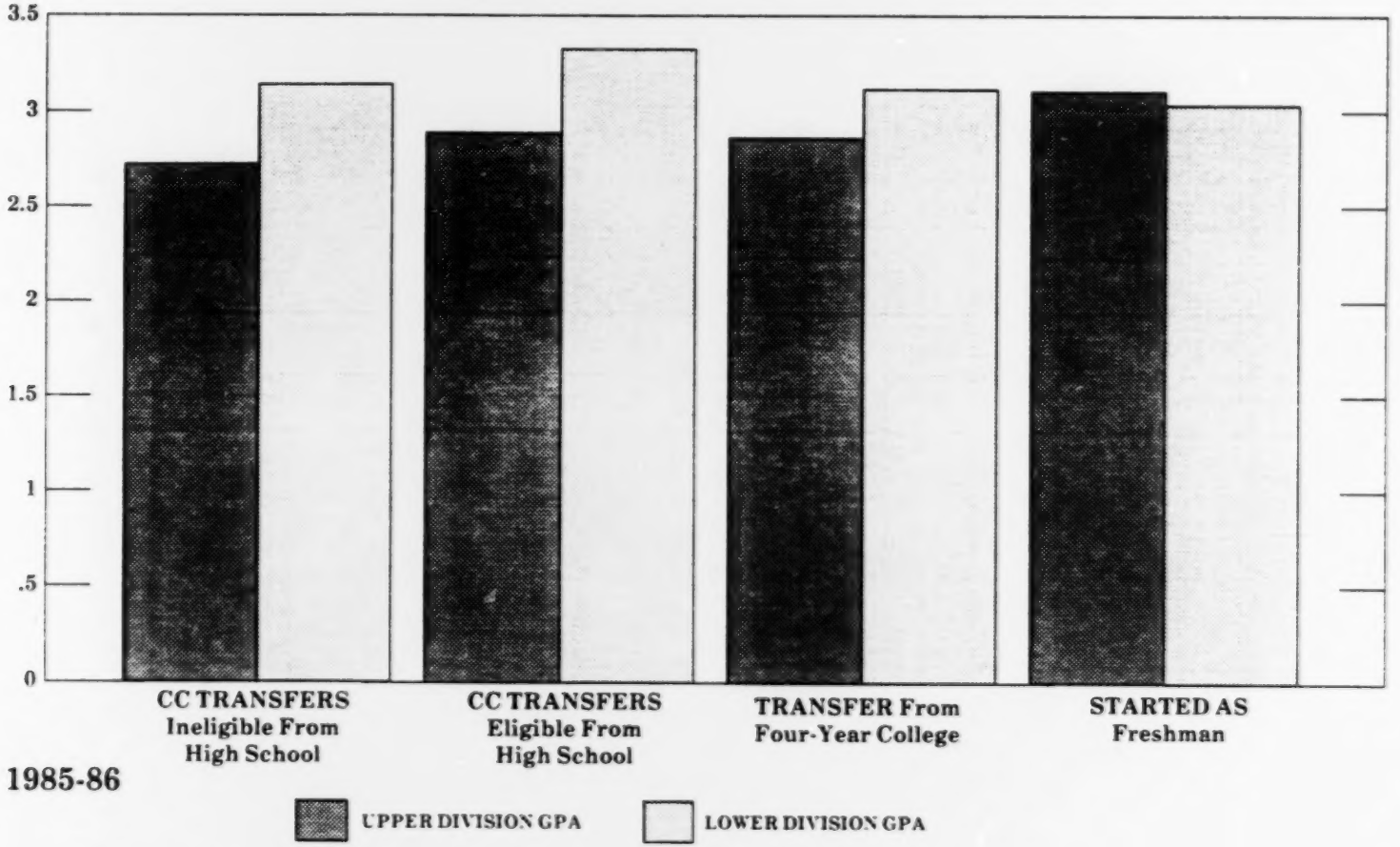
Upper Division Performance
GPA's of CC Transfers and Students
Who Started at University of California



Source: University of California, Office of Admissions and Outreach, 1984

FIGURE 11

Upper Division Performance
GPA's of CC Transfers and Students
Who Started at University of California



Source: University of California, Office of Admissions and Outreach, 1984

Transfer students to UC who are Caucasian and Asian tend to have higher GPAs than do those who are African-American and Hispanic. The first-year GPA for both regular and special admission transfers to UC in the Fall 1985 is illustrated in Table 4A. One-half of African-American and American Indian transfers are special admits, meaning that they have either scholastic or course deficiencies to make up and, likely, will need special assistance to succeed in upper division. Smaller proportions of transfer students in the other racial and ethnic groups are made up of special admits.

TABLE 4A

Grade Point Averages
1985-86

	Community College Transfers to UC, First Year						
	Am. Ind.	Afri-Amer	Chicano	Latino	Filipino	Asian	Cauc.
Regular Admits							
GPA	2.72	2.35	2.48	2.66	2.60	2.81	2.80
(Number)	(15)	(71)	(191)	(122)	(46)	(573)	(2,523)
Special Admits							
GPA	2.54	2.14	2.31	2.29	2.12	2.57	2.63
(Number)	(22)	(71)	(104)	(41)	(24)	(56)	(381)
	UC Juniors Who Started As Freshmen						
GPA	2.84	2.62	2.72	2.78	2.77	2.96	2.94
(Number)	(14)	(130)	(173)	(77)	(142)	(687)	(2,616)

Source: University of California, Office of Admissions and Outreach

Data for grades at CSU in Table 4B and Figure 12 suggest that the upper division GPAs of Community College transfers are equal to those of juniors who began their work at a CSU campus.

TABLE 4B

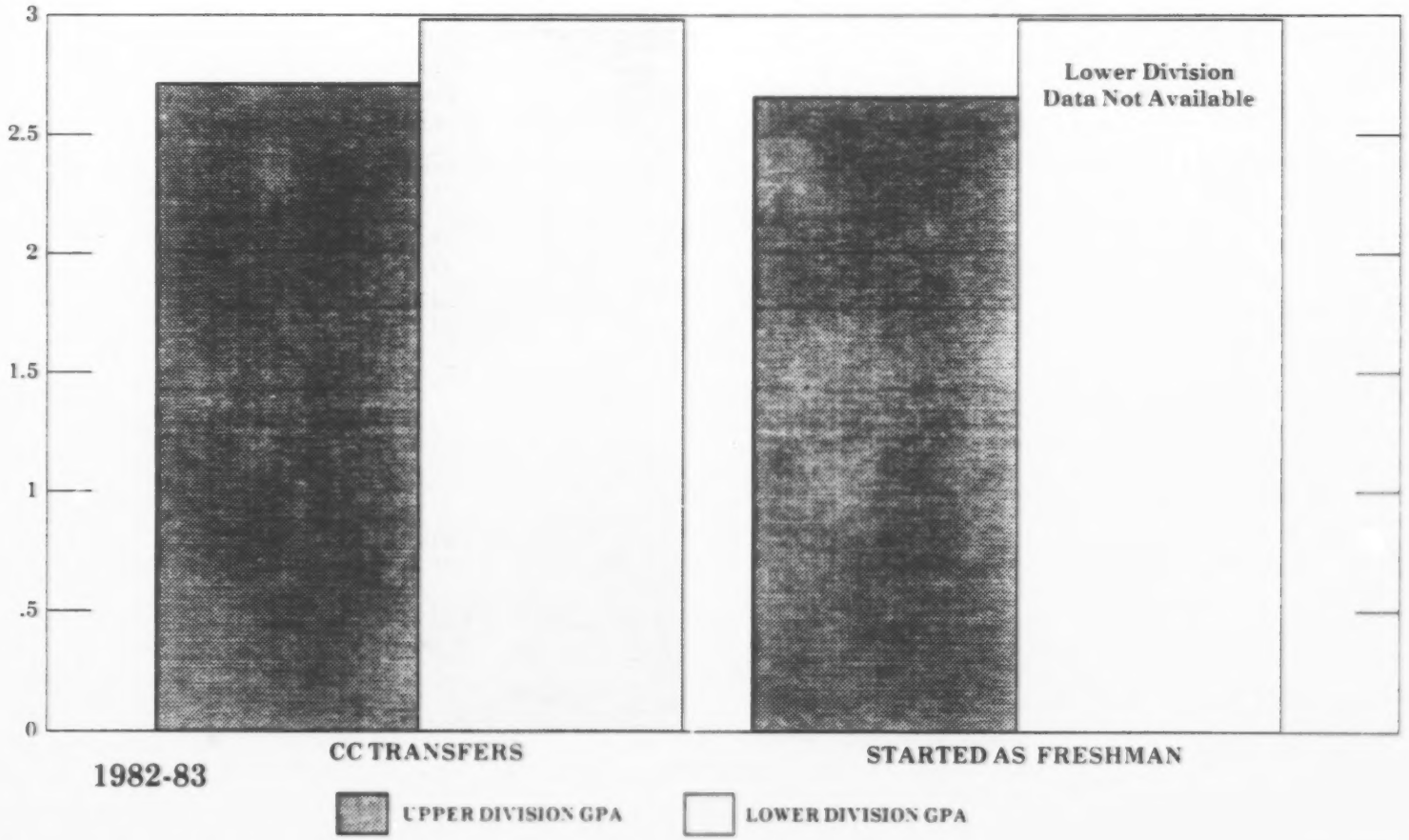
Academic Performance of Community College Transfers and California State University Natives
1990-91

	CCC GPA	CSU GPA	Cumulative GPA of CSU Natives
Transfers from CCC with $\geq$ 56 units	2.84	2.69	
Transfers from CCC with < 56 units who were originally eligible for CSU	2.84	2.64	
Transfers from CCC with < 56 units who were not originally eligible for CSU	2.49	2.25	
Total	**2.83**	**2.63**	**2.64**

Source: California State University, Office of Institutional Research

FIGURE 12

Upper-Division Performance
GPA's of CC Transfers and Students
Who Started at California State University



Source: California State University *Student Performance Report*, Fall 1983

Data on persistence of transfer students to a bachelor's degree at CSU show that within three years after transfer, two-fifths of Community College transfers have graduated, two-fifths have left College for other reasons, and one-fifth is still enrolled. The University of California studies, by contrast, suggest that within three years, two-thirds of all transfer students have graduated and by the fourth year this proportion increases to 70 percent. Much of the difference between UC and CSU retention in upper division seems to be that more students transfer to CSU before completing their lower division work and that more CSU transfers attend part-time than is the case for UC transfers.

Individual Community Colleges Transfer Activity

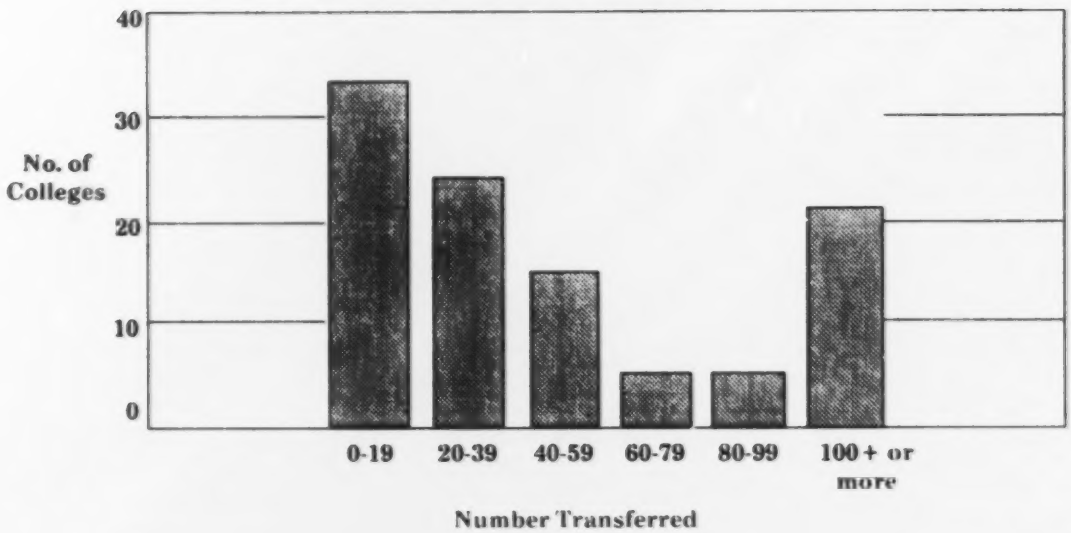
The numbers of students transferring from individual Community Colleges to UC and CSU differ largely because of the varying sizes of the Community Colleges. And, while much of the transfer activity to UC is concentrated among a few Colleges (25 of the 106 Community Colleges account for two-thirds of the UC transfers), CSU transfer activity is somewhat more evenly distributed (36 Community Colleges account for two-thirds of CSU transfers) (Figure 13).

FIGURE 13

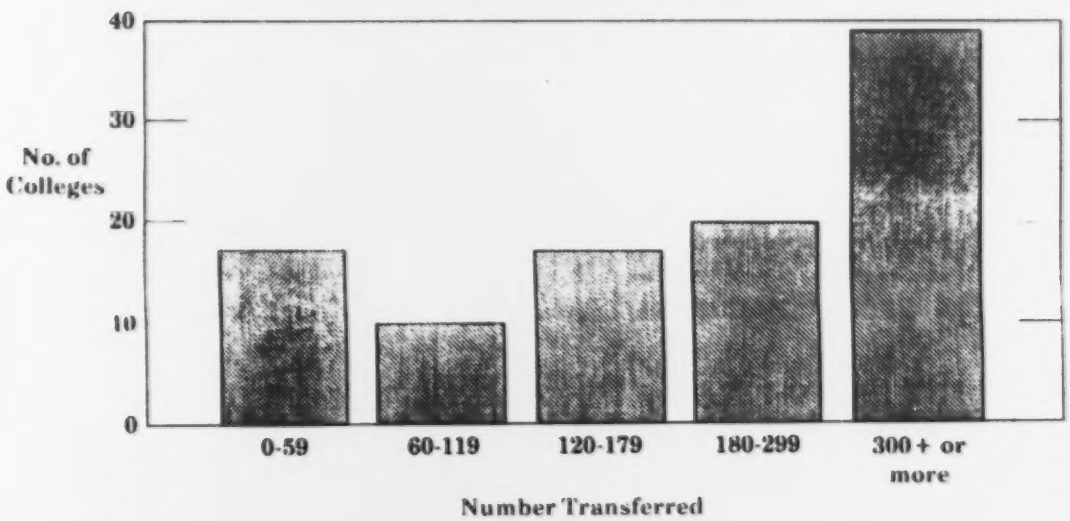
Numbers Transferred

Fall 1989

To the University of California



To the California State University



Source: California Postsecondary Education Commission, *Transfer Update*, 1991.

Transfer rates also vary substantially among individual Colleges: from 25 transfers (in 1989) per 100 full-time students (in 1987) at the highest-ranking College to three transfers per 100 full-time students at the lowest ranking College.

Three sets of factors are used here to try to explain the variation in transfer rates among individual Colleges:

1. student characteristics,
2. institutional characteristics, and
3. community characteristics.

A preliminary analysis of the factors – in the listing of Table 5 – shows that Colleges with the higher transfer rates (quartiles 1 and 2):

1. enroll more young full-time students,
2. enroll fewer African-American and Hispanic full-time students,
3. are larger – enroll more full-time students,
4. are located in suburban areas, and
5. have pilot transfer centers.

Student characteristics are linked statistically to Fall 1989 transfer rates and tend to mirror community characteristics. Institutional factors like college age, college expenditures, a concentration of transfers to just two or three four-year campuses, and close proximity of the Community College to four-year campuses are not statistically related to transfer rates in this analysis.

TABLE 5

Transfer Data for 103 Community Colleges Ranked According to Quintiles By Overall Transfer Rates to UC and CSU

Fall 1989

Category	Quintile				
	I	II	III	IV	V
Number of Colleges	21	20	20	21	21
Transfer Rates					
UC, CSU Total (per 100 FT)	17	13	11	10	7
UC Total	3.7	2.1	1.9	1.3	0.9
CSU Total	12.7	11.1	9.5	8.6	6.2
By Race/Ethnicity:					
American Indian	12	20	18	13	7
Asian	16	15	10	10	9
African-American	11	9	8	7	7
Hispanic	16	11	10	8	5
Filipino	15	10	11	12	4
Caucasian	16	13	12	11	8
Percent Who Transfer to One UC	46	54	50	51	66
Percent Who Transfer to One CSU	54	57	55	49	54
Percent Who Transfer to Two CSUs	69	59	71	69	71
Student Characteristics					
Average Number of Full-time	3,667	3,071	2,862	2,145	1,426
Percent of Full-time:					
Less than 24 years old	81	76	75	68	61
Male	51	49	49	47	47
Asian	9	8	11	10	7
African-American	5	7	6	13	19
Hispanic	10	11	13	15	23
Caucasian	71	65	57	52	43
Institutional Characteristics					
Location:					
Proximity to UC (see Table X)	.81	1.00	.71	.60	.79
Proximity to CSU (see Table X)	.64	.52	.38	.30	.63
Average Age of Colleges	51	43	38	45	39
Expenditures per Student					
Total	$ 2,930	$ 3,111	$ 2,948	$ 3,041	$ 3,152
Student	105	122	118	130	142
"Feeder" for CSUSD, UN, LB	4	5	11	9	11
Number with Transfer Center	7	4	3	4	3
Percent of WSCH Off-Campus	8.3	8.4	9.4	9.4	9.5
Community Characteristics					
Population per Square Mile	1,079	1,465	1,967	1,679	2,148
Percent Minority	20	23	26	32	37
Average College-Going Rate	9.7	6.9	7.9	6.9	7.1
Number in Urban Area	0	2	2	7	6
Number in Suburban Area	14	10	11	6	6
Number in Rural Area	7	8	7	8	9

The multiple regressions displayed in Tables 6, 7, and 8 help to confirm the preliminary notions listed above and to sort out the individual influence of each factor, while holding the influence of the other factors constant. Looking at what influenced transfer rates in the Fall 1989 (Table 6), we find that apart from the noted student characteristics, the operation of transfer centers and high expenditure levels were related to high transfer rates.

Also significant in reducing Fall 1989 transfer rates were actions by the CSU campuses of Long Beach, San Diego, and Northridge which resulted in earlier cut-off times for applications. Community Colleges that normally send large numbers of transfers to these three CSU campuses reported significant declines in their transfer rates.

The picture changes dramatically when we use the same factors to determine what caused changes in the Colleges' transfer rates between 1987 and 1989. While our model factors do not help explain the rate-change (Table 7) nearly as well as the rate total (Table 6), the differences are significant. In contrast to what determined high transfer rates (Table 6), those Colleges experiencing the largest increases in rates during the three-year period were Colleges that operated transfer centers and were located in proximity to a CSU campus (Table 7). The impact of transfer centers, given all the other supporting evidence, is important. The impact of proximity to CSU, however, may simply reflect the fact that Colleges chosen to have transfer centers happened to be so located.

Finally, the regression in Table 8 attempts to explain high and low transfer rates for African Americans and Hispanics. Larger colleges with relatively few full-time African-Americans and Hispanics report the highest transfer rates for those African-Americans and Hispanics they do enroll. Related even more to high African-American and Hispanic transfer rates, however, are the operation of transfer centers and the level of total expenditures per student.

TABLE 6

Regression Analysis of 103 California Community Colleges

Dependent Variable = Total Transfer Rate of Colleges, 1989

Regression Output:	
Constant	0.1011
Std Err of Y Est	0.0251
R Squared	0.5575
No. of Observations	103
Degrees of Freedom	88

F = 7.9194

Signif. @ .05? Yes!

RESULTS OF INDEPENDENT VARIABLES

	#FT	FT%<25	FT%AA&H	FT%M	COLAGE	E/P	%OFF-C
Regr. Coeff.	0.000005	0.0604	-0.0830	-0.0010	0.0000	0.0008	-0.0000
Std. Error	0.000002	0.0236	0.0253	0.0004	0.0001	0.0007	0.0004
t Value	2.595118	2.5552	-3.3000	-2.5600	0.2723	1.0740	-1.0180
Signif. @.05?	YES!	YES!	YES!	YES!	NO!	NO!	NO!
	TRCN	$T/ADA	CSUFDR	NEARCSU	NEARUC	POPDNS	%MINP
Regr. Coeff.	0.019808	0.0000	0.0111	-0.0000	-0.0040	-0.0000	-0.0000
Std. Error	0.006939	0.0000	0.0063	0.0053	0.0045	0.0000	0.0003
t Value	2.855760	2.1024	1.7530	-0.1220	-0.9630	1.3450	-0.8530
Signif. @.05?	YES!	YES!	YES!	NO!	NO!	NO!	NO!

INDEPENDENT VARIABLES

#FT	=	Number of Full-time Students
FT%<25	=	Percent of full-time students under 25 years-of-age
FT%AA&H	=	Percent of full-time students that is African-American and Hispanic
FT%M	=	Percent of full-time students that is Male
COLAGE	=	Age of College
E/P	=	College enrollment ÷ College service area adult population
%OFF-C	=	Percent of College instruction taught off campus
TRCN	=	College has transfer center
$T/ADA	=	College total expenditures per ADA
CSUFDR	=	College did not send more than 10% of transfers to one of three CSU campuses that restricted transfers in 1989
NEARCSU	=	Measure of College's proximity to a CSU campus
NEARUC	=	Measure of College's proximity to a UC campus
POPDNS	=	Population per square mile in College service area
%MINP	=	Percent of College's service are population that is minority

TABLE 7

Regression Analysis of 103 California Community Colleges

Dependent Variable = Change in College Transfer Rate
1987-89

Regression Output:	
Constant	0.0346
Std Err of Y Est	0.2993
R Squared	0.2230
No. of Observations	103
Degrees of Freedom	88

F = 1.8046

Signif. @ .05? No!

RESULTS OF INDEPENDENT VARIABLES

	#FT	FT%<25	FT%AA&H	FT%M	COLAGE	E/P	%OFF-C
Regr. Coeff.	0.000037	-0.5190	0.2863	-0.0000	-0.0000	0.0071	-0.0000
Std. Error	0.000026	0.2821	0.3170	0.0055	0.0016	0.0093	0.0048
t Value	1.412982	-1.8410	0.9489	-0.0660	-0.5510	0.7601	0.1860
Signif. @.05?	NO!	YES!	NO!	NO!	NO!	NO!	NO!
	TRCN	**$T/ADA**	**CSUFDR**	**NEARCSU**	**NEARUC**	**POPDNS**	**%MINP**
Regr. Coeff.	0.166452	0.0001	-0.0580	0.1250	0.0389	0.0000	-0.0040
Std. Error	0.082698	0.0000	0.0754	0.0633	0.0547	0.0000	0.0037
t Value	2.012763	1.6276	-0.7800	1.9729	0.7104	-1.1570	-1.2350
Signif. @.05?	YES!	NO!	NO!	YES!	NO!	NO!	NO!

INDEPENDENT VARIABLES

#FT	=	Number of Full-time Students
FT%<25	=	Percent of full-time students under 25 years of age
FT%AA&H	=	Percent of full-time students that is African-American and Hispanic
FT%M	=	Percent of full-time students that is Male
COLAGE	=	Age of College
E/P	=	College enrollment ÷ College service area adult population
%OFF C	=	Percent of College instruction taught off campus
TRCN	=	College has transfer center
$T/ADA	=	College total expenditures per ADA
CSUFDR	=	College did not send more than 10% of transfers to one of three CSU campuses that restricted transfers in 1989
NEARCSU	=	Measure of College's proximity to a CSU campus
NEARUC	=	Measure of College's proximity to a UC campus
POPDNS	=	Population per square mile in College service area
%MINP	=	Percent of College's service are population that is minority

TABLE 8

Regression Analysis of 103 California Community Colleges

Dependent Variable = College Transfer Rate
for African-Americans and Hispanics, 1989

Regression Output:	
Constant	0.0611
Std Err of Y Est	0.0351
R Squared	0.3883
No. of Observations	103
Degrees of Freedom	88

F = 3.9910

Signif. @ .05? Yes!

RESULTS OF INDEPENDENT VARIABLES

	#FT	FT%<25	FT%AA&H	FT%M	COLAGE	E/P	%OFF-C
Regr. Coeff.	0.000008	-0.0040	-0.0780	-0.0000	-0.0000	-0.0000	0.0005
Std. Error	0.000003	0.0331	0.0354	0.0006	0.0001	0.0011	0.0005
t Value	2.563093	-0.1210	2.2160	-0.3090	-0.5980	-0.1560	1.0475
Signif. @.05?	YES!	NO!	YES!	NO!	NO!	NO!	NO!
	TRCN	$T/ADA	CSUFDR	NEARCSU	NEARUC	POPDNS	%MINP
Regr. Coeff.	0.029771	0.0000	0.0032	0.0010	-0.0030	0.0000	-0.0000
Std. Error	0.009722	0.0000	0.0088	0.0074	0.0064	0.0000	0.0004
t Value	3.062094	2.5788	0.3674	0.1411	-0.5480	-0.8510	-1.2560
Signif. @.05?	YES!	YES!	NO!	NO!	NO!	NO!	NO!

INDEPENDENT VARIABLES

#FT	=	Number of Full-time Students
FT%<25	=	Percent of full-time students under 25 years-of-age
FT%AA&H	=	Percent of full-time students that is African-American and Hispanic
FT%M	=	Percent of full-time students that is Male
COLAGE	=	Age of College
E/P	=	College enrollment ÷ College service area adult population
%OFF-C	=	Percent of College instruction taught off campus
TRCN	=	College has transfer center
$T/ADA	=	College total expenditures per ADA
CSUFDR	=	College did not send more than 10% of transfers to one of three CSU campuses that restricted transfers in 1989
NEARCSU	=	Measure of College's proximity to a CSU campus
NEARUC	=	Measure of College's proximity to a UC campus
POPDNS	=	Population per square mile in College service area
%MINP	=	Percent of College's service are population that is minority

Relying on factors such as those above, the statistical model used for this preliminary analysis can explain about half of the variation in transfer rates among individual Community Colleges (Table 6). The remaining half of the variation in rates very likely is explained by other factors such as institutional commitment, articulation agreements, and initiatives specific to transfer (other than the pilot centers). Once this kind of statistical model is refined, the actual transfer rates of individual Colleges can be compared to the rates estimated for them by the model; i.e., rates that would be expected due to a College's location, type of student clientele, etc. Colleges with high and/or unexpectedly high transfer rates may then be reviewed to identify successful policies and practices. In the same way, conditions at Colleges with low and/or unexpectedly low transfer rates can be reviewed to identify gaps in policy and practice.

Transfer Centers

Evidence reviewed above strongly supports the positive impact that the twenty transfer centers had on the transfer rates of their Colleges. Trends in transfer rates for the Colleges with centers may be compared directly to those rates for Colleges without centers (Table 9). During the two years prior to full implementation of the pilot transfer centers (1985 and 1986), transfer rates at the Colleges that were to have transfer centers were lower than those rates at Colleges without centers. After implementation (1987-1990), this pattern was reversed: transfer rates at the transfer center Colleges have equaled and exceeded rates at the Colleges without centers. In fact, Colleges with transfer centers transferred about:

- 1,200 more students in 1987-88
- 1,400 more students in 1988-89
- 1,700 more students in 1989-90
- 2,300 more students in 1990-91

than they would have if the change in their rates before and after the centers' implementation had followed the same trends as those reported by Colleges without centers.

If these numbers are projected across the entire Community College system, about 33,000 more students would have transferred over the four-year period to UC and CSU if all Colleges had improved at the same rate as those that operated transfer centers. This difference would have represented a 15 percent increase in the number (217,000) that actually did transfer during that four-year period.

TABLE 9

Estimated Impact on Transfer Rates for Colleges With and Without Transfer Centers

Fall	Average Transfer Rate for Colleges with Transfer Centers	Average Transfer Rate for Other Colleges	Rate for Colleges With Transfer Center if Like Other Colleges	Estimated Rate Difference	Estimated Transfer No. Difference in Fall	Estimated Full-Year Difference
1985	11.7	12.0	--	--	--	--
1986	11.4	12.6	--	--	--	--
1987	12.9	12.9	11.7	1.2	812	1,218
1988	13.5	13.4	12.1	1.4	912	1,368
1989	12.7	12.2	11.0	1.7	1,146	1,719
1990	13.6	12.7	11.5	2.1	1,502	2,253
Total						**6,558**

Sources: Chancellor's Office Information System
California Postsecondary Education Commission, *Transfer Update*, 1991.

The positive impact of the transfer centers is further supported by the fact that the Community Colleges with transfer centers had no apparent advantage at the onset of the pilot test. On the one hand, they tended to be larger and more often were located in suburban areas than were Colleges without transfer centers – both factors that suggest higher transfer rates (Table 10). Balancing this out, Colleges with transfer centers also reported a smaller percentage of Caucasian students than Colleges without centers – a factor that suggests they (Colleges with transfer centers) would have lower overall transfer rates. This was in fact the case prior to the pilot test.

Future Trends in Transfer

The future number of potential transfer students may be estimated by the number of high school graduates. And, here, to avoid the difficulty of predicting future high school graduation rates, we use the number of 18 year-olds as a proxy for the number of high school graduates. Using this proxy, the potential pool of transfer students will increase substantially after 1992 for about 12 years, topping out at 2004 (Figure 14).

TABLE 10

Comparison of Colleges With Transfer Centers and Colleges Without Transfer Centers

Geography/Size		Colleges With Centers		Colleges Without Centers		Overall Transfer Rates
		Number	Percent	Number	Percent	Percent
Large	Urban	1	5	3	4%	13.0
	Suburban	6	30	16	19	15.0
	Rural	0	0	0	0	n/a
Medium	Urban	4	20	4	5	8.0
	Suburban	6	30	14	16	13.0
	Rural	2	10	14	16	13.0
Small	Urban	1	5	5	6	9.0
	Suburban	0	0	5	6	9.0
	Rural	1	5	23	27	11.1
Full-Time		29.6%		25.8%		
Caucasian		54.0%		65.3%		
Proximity						
	To UC	.55		.86		
	To CSU	.25		.60		

NOTE: The size categories are as follows:

Small < 5,000 headcount enrollment
Medium 5,000-14,000
Large > 14,000

Geographic categories are based on an assessment of the location of a district's colleges in relation to population density.

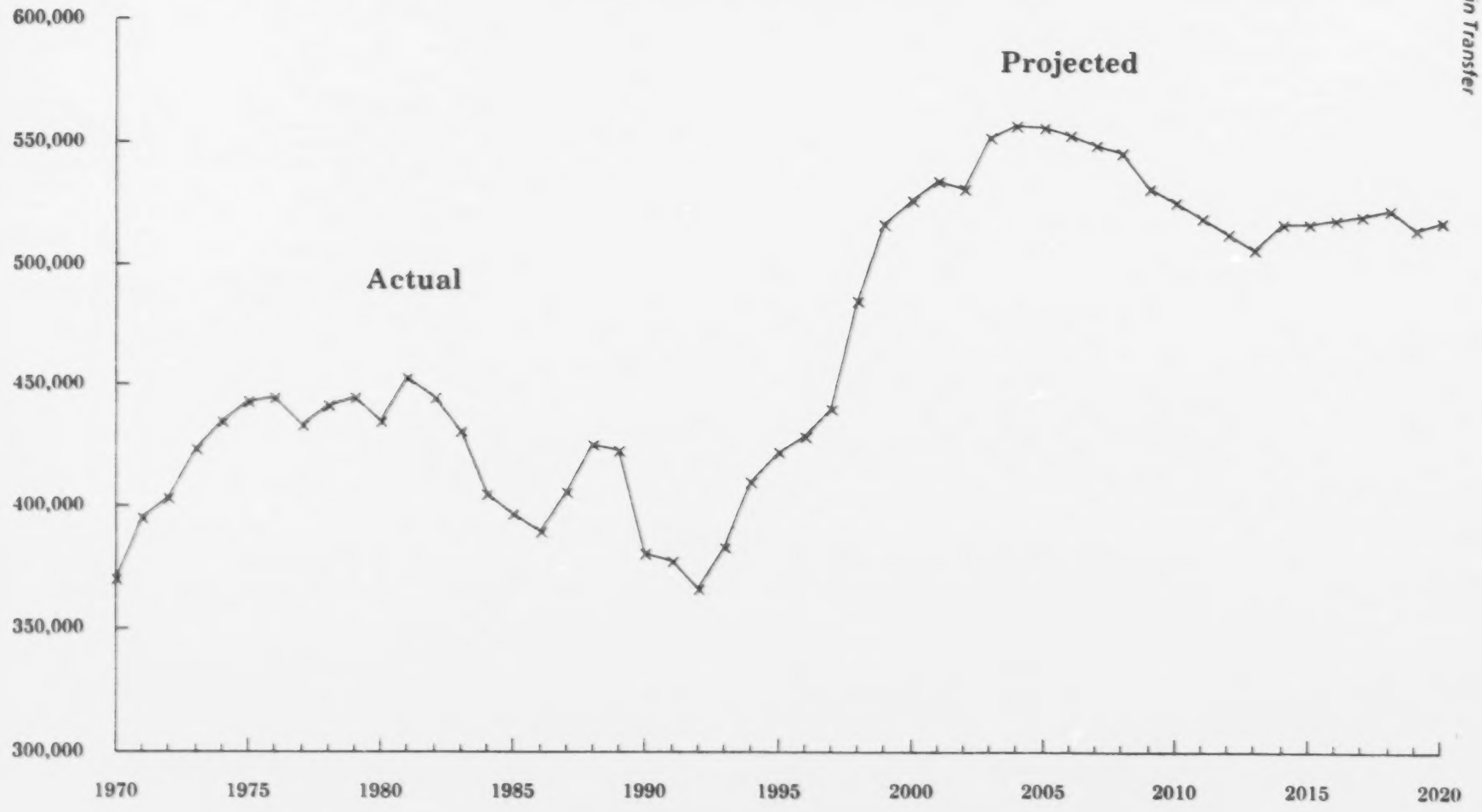
Proximity is an average score for the group that is based on ranking each district by the distance of the nearest four-year campus to one of the district's colleges:

0 < 10 miles
1 10-25 miles
2 > 25 miles

Source: Chancellor's Office

FIGURE 14

Potential Transfer Students
Based on Number of 18 Year-olds

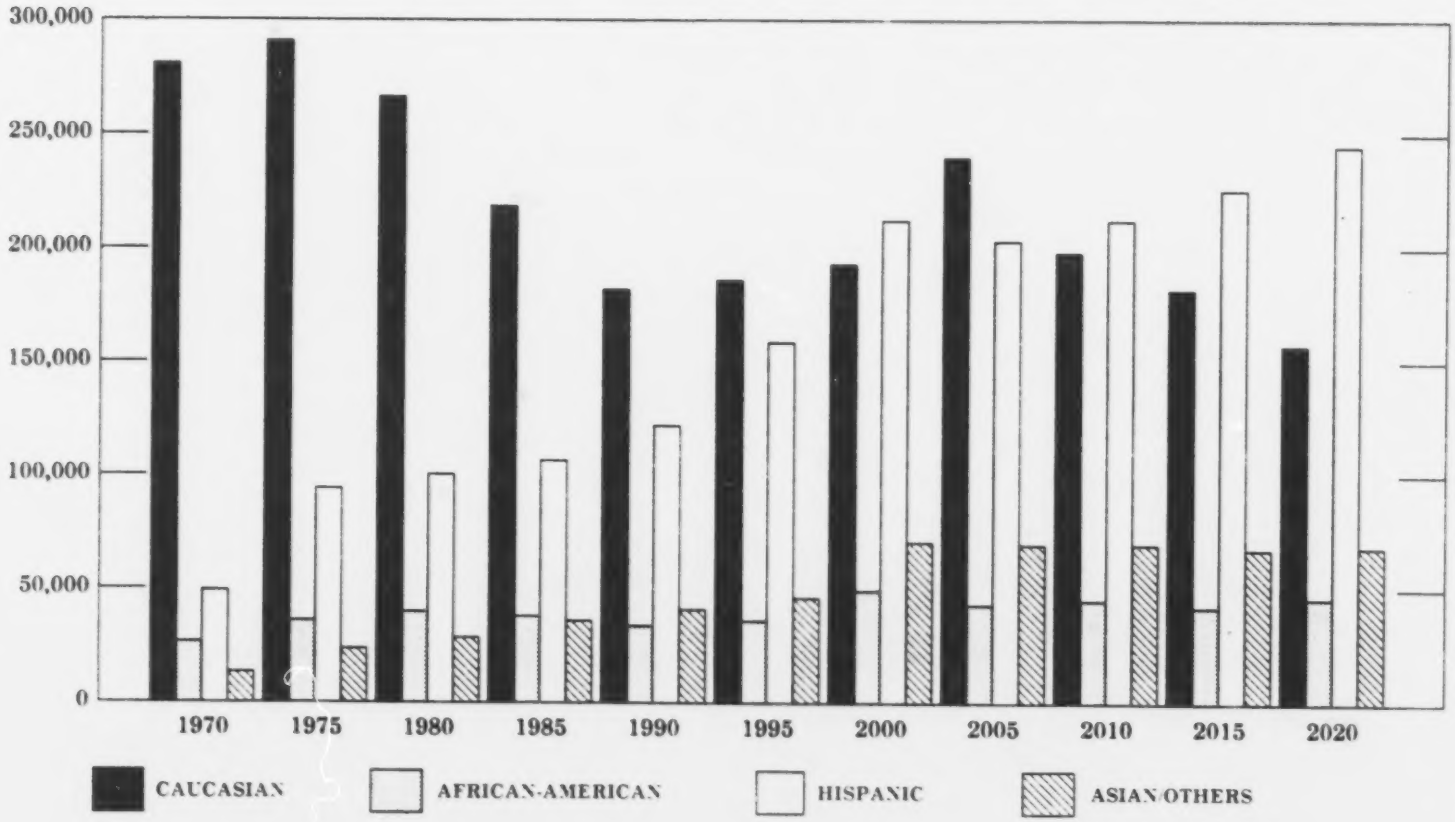


Source: Department of Finance, Population Research

Impacting these increases are at least two conflicting tendencies. If the recent increase in the proportion of high school graduates attending a Community College continues, the expected increase in potential transfer students will be even more dramatic for Community Colleges. Possibly balancing this factor is the large expected increase in young Hispanic students (Figure 15), who traditionally have exhibited the lowest community college-going rate of all racial and ethnic groups. Unless improved, this low Hispanic college-going rate will tend to reduce the potential transfer pool.

FIGURE 15

Ethnicity of Potential Transfer Students
BAsed on Number of 18 Year-olds



Source: Department of Finance, Population Research

Defining and Measuring Transfer Issues

Difficulties in evaluating the transfer function have led to a number of efforts to more-effectively define and measure a "transfer rate" for Community Colleges. Like any other rate, there are issues with both the numerator (those who qualify to transfer and/or do so) and denominator (the number of community College students who are bona fide potential transfers). And, the issues differ according to whether the evaluation is a "cross section" analysis of individual Colleges or a "longitudinal" analysis of the system and/or individual Colleges. Moreover, the issues are intersegmental; i.e., most transfer rates reflect the efforts and practices of the four-year institutions as well as the Community Colleges. The concept of "transfer readiness" has been suggested as a way of isolating the Community College contribution to the transfer function.

Numerator

While data for those transferring to UC and CSU are the most reliable, even these two segments measure transfers differently. The University of California measures Community College transfers as those who have taken at least 12 transferable units of their lower division work at a Community College and it was the last institution they attended prior to transfer. By contrast, CSU counts transfers as from a Community College if that was the last institution they attend prior to entering CSU. Both practices result in transfer numbers being understated. Moreover, data for Community College transfers to independent Colleges in California are incomplete and data for transfers to out-of-state Colleges and universities are nonexistent.

Denominator

The problem of identifying potential transfer students is virtually intractable. Studies show that one-third of Community College students declare they are enrolled for purposes of later transferring to a four-year institution. But, many of these students are either attending on a limited basis – many while working – or are taking a course pattern that will not enable them to transfer. (The complete implementation of matriculation and transfer centers by all Community Colleges should help solve the identification problem.)

The wide variety of possible denominators for measuring the potential transfer pool produces the many definitions of "transfer rate" that have been used or proposed. A number of those proposed recently are contained in Table 11. Most observers agree that one should combine student intent with program and course-taking behavior when specifying the potential transfer pool. This is easier to define than to measure, however, and virtually all proposed definitions in Table 11 are deficient from one standpoint or another. Elaborate definitions are likely to be more effective when looking at cross-section data and when comparing the performance of different institutions. Simple definitions are likely to be more useful in longitudinal

evaluations largely because the data are available. It appears that more than one definition will be needed to evaluate transfer.

At present, one of the proposed definitions in Table 11 – that of the National Effective Transfer Consortium – is being tested for its feasibility across all California Community Colleges in a study by Berman-Weiler Associates. This work is scheduled to be completed by June 1992.

TABLE 11

Alternative Definitions of Transfer Rates

1. **"Traditional" (according to Berman-Weiler) Definition**

$$\frac{\textit{Transfers in Year T}}{\textit{Total Credit Enrollment in Year T}} \qquad \textit{(rough ave.: 5-6\%)}$$

2. **Ford Foundation/Center Study of Transfer Assembly, 1989**

$$\frac{\textit{Sum of transfers in Years } T+1,\ T+2,\ T+3,\ T+4}{\textit{Entrants in Year T}} \qquad \textit{(12\%)}$$

A Variation of this uses (for the denominator):
Entrants in year t who earned 12 or more units *(22%)*

3. **Berman-Weiler (for National Effective Transfer Consortium, 1989)**

$$\frac{\textit{Transfers in Year T}}{\textit{Leavers (with } >6 \textit{ units, w/o BA/BS) in Year T}} \qquad \textit{(26\%)}$$

A Variation of this uses (for the denominator):
Leavers (for whom transfer is "important") *(66%)*

4. **Berman-Weiler (for Transfer Center Analysis, 1989)**

$$\frac{\textit{Average Number of Transfers in Years } T,\ T+1,\ T+2}{\textit{Average Total Credit Enrollment in Years } T,\ T+1,\ T+2} \qquad \textit{(?\%)}$$

5. **University of Michigan (Lee and Frank), 1990**

$$\frac{\textit{Transfers in Years } T+1,\ T+2,\ T+3,\ T+4}{\textit{High School Graduates in Year T Enrolling in Community Colleges}} \qquad \textit{(@25\%)}$$

6. **Brint and Karabel, 1989**

$$\frac{\textit{Transfers in Year T}}{\textit{Community Colleges Enrollment in Year T??}} \qquad \textit{(<20\%)}$$

TABLE 11 *(Continued)*
Alternative Definitions of Transfer Rates

7. **Chancellor's Office Research Unit Suggestions, 1990**

(a) $$\frac{\textit{Transfers in Year T}}{\textit{First Time Entrants with Transfer Objective in Year T-3}} \quad \textit{((@50\%)}$$

(b) $$\frac{\textit{Transfers in Year T}}{\textit{High School Graduates Enrolling in Community College in Year T-3}} \quad \textit{(40-50\%)}$$

(c) $$\frac{\textit{Transfers in Year T}}{\textit{Full-time Enrollment in Community Colleges in Year T-2}} \quad \textit{((@15\%)}$$

8. **Intersegmental Coordinating Council Data Task Force, 1991**

(a) $$\frac{\textit{Transfers in Year (N+1) to Year (M)}}{\textit{Students with 12 Transferable Units in Their First Year (N)}}$$

(b) $$\frac{\textit{Transfers in Year (N+1) to Year (M)}}{\textit{New Students with Intent and 12 Transferable Units in Their First Year (N)}}$$

9. **Chancellor's Office Task Force on Transfer Data and Definitions, 1991**

Transfer Rate:

(a) $$\frac{\textit{Transfers in Years } T+1, \ldots T+M}{\textit{Students with Intent and 12 Transferable Units in Year T}}$$

(b) $$\frac{\textit{Transfers in Year T}}{\textit{Students with Intent and 12 Transferable Units in Year T}}$$

Transfer Readiness:

(a) $$\frac{\textit{Transfers Plus Students with 56 Transferable Units and Intent in Years } T+1, \ldots T+M}{\textit{Students with Intent and 12 Transferable Units in Year T}}$$

(b) $$\frac{\textit{Transfers plus Students with 56 Transferable Units and Intent in Year T}}{\textit{Students with Intent and 12 Transferable Units in Year T}}$$

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